

VEYTS, B. Ye.

Some properties of the stability of bases. Dokl. AN SSSR  
158 no.1:13-16 S-O '64 (MIRA 17:8)

1. Murmanskij pedagogicheskij institut. Predstavleno akademi-  
kom V.I.Smirnovym.

VEYTS, B.Ye. (Murmansk)

Bessel and Hilbert systems in Banach spaces and some stability  
problems. Izv. vys. ucheb. zav.; mat. no.2:7-23 '65. (MIRA 13:5)

VEYTS, B.Ye.

Some applications of the general theory of biorthogonal systems  
in the study of symmetrizable operators. Usp.mat.nauk 17 no.6:  
127-134 N-D '62. (MIRA 16:1)

(Operators (Mathematics))

VEYTS, B.Ye.

Some characteristics of absolute bases. Dokl. AN SSSR 155 no. 3:  
509-512 Mr '64. (MIRA 17:5)

1. Murmanskiiy pedagogicheskiy institut. Predstavleno akademikom  
A.N.Kolmogorovym.

VEYTS, B.Ye.

Certain properties of bases of absolute convergence. Usp.mat.  
nauk 17 no.6:135-142 N-D '62. (MIRA 16:1)  
(Banach spaces) (Convergence)

VEYTS, I.I., mladshiy nauchnyy sotrudnik [deceased].

Basic problems of joining two streams. Izv.VNIIG no.32:68-81 '47.  
(Hydraulics) (Spillways) (MLRA 10:2)

VEYTS, I. V.

USSR/Physics - Phosphore  
Crystals - Optical Properties

May 50

"Variations in the Optical Properties of ZnS.Cu, Mn, and Zn.S.CdS.Mn Phosphors in the Case of Their Mechanical Crushing," V. L. Levshin, I. V. Veyts, 11 pp

"Zhur Eksper i Teoret Fiz" Vol XX, No 5

Investigates influence of crushing subject phosphors upon brightness, composition of radiation, speed of damping, and internal structure of crystals. Establishes that variation in optical properties is due not to variation in volume of crystals, but to occurrence of displacements and stresses within crystals. Submitted 6 Dec 49.

PA 160T106

VEYTS, I.V.; GURVICH, L.V.; KOROBV, V.V.

Determination of the dissociation energy of metal oxides (SrO, CaO and MgO) by measuring the intensity of resonance lines of the metal atoms in flame spectra. Izv. AN SSSR. Ser. fiz. 19 no.1:21-22 Ja-F '55. (MLRA 8:9)

1. Institut goryuchikh iskopayemykh Akademii nauk SSSR  
(Spectrum analysis) (Spectrometer)



VEYTS, I. V.

USSR/Atomic and Molecular Physics - Physics of the Molecule, D-2

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34313

Author: Veyts, I. V., Gurvich, L. V.

Institution: None

Title: Dissociation Energies of Oxides of Magnesium, Calcium, Strontium, and Barium

Original Periodical: Optika i spektroskopiya, 1956, 1, No 1, 22-33

Abstract: Based on a study of the intensities of resonant lines of metal atoms in a flame, a determination was made of the constant of equilibrium of dissociation of oxides of alkali-earth metals in flames of  $C_2H_2 + \text{air}$ ,  $C_2H_2 + O_2$ ,  $H_2 + \text{air}$ , and  $H_2 + O_2$ . With the aid of the so obtained values of the equilibrium constant, the energies of the dissociation of the oxides were obtained.

1 of 1

- 1 -

Veyts, I. V.

USSR/ Physical Chemistry - Molecule. Chemical Bond

B-4

Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 7166

Author : Veyts, I. V. and Gurvich, L. V.

Inst : Academy of Sciences USSR

Title : Dissociation Energy of AlO

Orig Pub : Dokl. AN SSSR, 1956, Vol 108, No 4, 659-661

Abstract : The energy of dissociation of AlO was calculated from the equilibrium constant for the dissociation of AlO in an oxyacetylene flame by a previously described method (RZhKhim, 1956, 74133). The partial pressure of atomic Al was calculated from the intensity of the Al(I) line at 3961.5A. A value of  $133.5 \pm 3$  kcal/mole (5.8ev) was found for  $D(\text{Al})$  [sic].

*Inst. Mineral Fuels. AS USSR*

Card 1/1

- 13 -

VEYTS, I. V., *Card* Master Chem Sci -- (USSR) "Determining the Dissociation Energy of  
Alkali-Earth Metal Oxides by Measuring the Intensity of the Atomic Resonance Lines  
of the Molecule in Flame Spectra." Moscow, 1957. 18 pp. (Moscow, <sup>M.V.</sup> Lomonosov State  
~~Inst.~~ Univ. Chem Faculty), 110 copies

(KL, No 39, 1957, p. 94)

"APPROVED FOR RELEASE: 09/01/2001

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1. The first of the two main points of the report is that the

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SOV/137-58-8-16357

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 17 (USSR)

AUTHORS: Veyts, I.V., Gurvich, L.V.

TITLE: On the Problem of the Energy of Dissociation of the Basic Electronic States of the Oxides of Alkaline-earth Metals (K voprosu ob energii dissotsiatsii i osnovnykh elektronnykh sostoyaniyakh okislov shchelochnozemel'nykh metallov)

PERIODICAL: Fiz. sb. L'vovsk. un-t, 1957, Nr 3 (8), pp 305-308

ABSTRACT: The energy of dissociation of the molecules of MgO, CaO, SrO, and BaO was determined by the measurement of the constants of the equilibrium of the dissociation reactions of these oxides in the flame of H<sub>2</sub> with O<sub>2</sub> and air, as well as of acetylene with O<sub>2</sub> and with air. The relationships of log K<sub>p</sub> to 1/T for the reaction of dissociation of oxides were plotted. The values for the energy of dissociation, established through the log K<sub>p</sub>-1/T relationship in a broad temperature range, have no relation to the basic state of the oxides of the metals examined. 1. Alkaline earth metal oxides--Ionization 2. Alkaline earth metal oxides--Energy 3. Flames--Ionizing effects Yu.L.

Card 1/1

Veyts, I. V.

**AUTHORS:** Veyts, I. V., Gurvich, L. V. 76-10-20/34

**TITLE:** On the Dissociation Energies of Oxide Molecules of the Alkaline Earth Elements (K voprosu ob energiyakh dissotsiatsii molekul okislov shchelochno-zemel'nykh elementov).

**PERIODICAL:** Zhurnal Fizicheskoy Khimii, 1957, Vol. 31, Nr 10, pp. 2306-2311 (USSR)

**ABSTRACT:** The dissociation energies of CaO and SrO were investigated here on the basis of measurements of the equilibrium constants of their dissociation in a CO+O<sub>2</sub>-flame in which the partial pressure of the hydroxyl is considerably lower than in other flames with a temperature of ~ 3000°K. The values D<sub>0</sub>(CaO) and D<sub>0</sub>(SrO) obtained by the investigations in flames with a different hydroxyl content are compared. It is shown that the presence of the CaOH- and SrOH-molecules does not influence the dissociation energy values to be determined of the calcium- and strontium oxides. Furthermore it is shown that the gas temperature in the exterior flame cone of CO+O<sub>2</sub> which was measured according to the Ornstein

CARD 1/2

On the Dissociation Energies of Oxide Molecules of the Alkaline Earth Elements 76-10-20/34

method agrees well with the theoretically computed equilibrium temperature. On the strength of an analysis of the data concerning the dissociation energies of molecules of the oxides of the alkaline earth elements which were obtained according to different methods it is shown that the most precise values were obtained on the strength of the investigation of the dissociation equilibrium of the corresponding oxides in the flames. There are 4 tables and 3 Slavic references.

ASSOCIATION: Institute for Mineral Fuels  
Moscow (Institut goryuchikh iskopayemykh,  
Moskva).

SUBMITTED: July 27, 1956

AVAILABLE: Library of Congress

CARD 2/2



**AUTHORS:** Gurvich, L. V., Veyts, I. V.

20-5-25/48

**TITLE:** Spectroscopic Investigation of the  $\text{NaCl} \rightleftharpoons \text{Na} + \text{Cl}$   
Reaction Equilibrium in the  $\text{H}_2 + \text{Cl}_2$  Flame and the Dissociation  
Energy of NaCl (Spektroskopicheskoye issledovaniye ravnovesiya  
reaktsii  $\text{NaCl} \rightleftharpoons \text{Na} + \text{Cl}$  v plameni  $\text{H}_2 + \text{Cl}_2$  i energiya  
dissotsiatsii NaCl).

**PERIODICAL:** Doklady AN SSSR, 1957, Vol. 116, Nr 5, pp. 811-812 (USSR)

**ABSTRACT:** First the results of several respective works are referred to. The investigation was carried out in a flame fed with the fuel compound  $1,00 \text{ H}_2 + 0,80 \text{ Cl}_2 + 0,016 \text{ H}_2\text{O}$  (liquid). The temperature of this flame was  $2450^\circ \text{K}$ . The partial pressure of atomic chlorine was  $3,37 \cdot 10^{-2} \text{ atm}$ . The determination of the flame temperature from the reaction of the D-bands of Na at a distance of from 3-6 mm above the reaction zone supplied the values  $2350 - 2550^\circ \text{K}$ . For the investigation of the reaction equilibrium  $\text{NaCl} \rightleftharpoons \text{Na} + \text{Cl}$  diluted solutions of two sodium salts ( $1,02 \cdot 10^{-3} \text{ N-}$

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Spectroscopic Investigation of the  $\text{NaCl} \rightleftharpoons \text{Na} + \text{Cl}$  20-5-25/48  
Reaction Equilibrium in the  $\text{H}_2 + \text{Cl}_2$  Flame and the Dissociation  
Energy of NaCl.

solution of NaCl and  $1,19 \cdot 10^{-3}$  N-solution of  $\text{Na}_2\text{CO}_3$ ) were introduced to the flame. The partial pressure of Na in the flame was determined from the absolute intensity of the resonance bands 5890 and 5896 Å in the flame spectrum some mm above the reaction zone. The methods used for measurements and the treating of experimental data was already discussed in a preliminary work (reference 1). The values  $P_{\text{Na}}$  of the partial pressure found this way are listed in a table. The same table contains the values of  $P_{\Sigma \text{Na}}$  - the sum of the partial pressures of Na and its compounds in the flames of the gases. The values of  $P_{\Sigma \text{Na}}$  are calculated from the data of the sodium salt introduced to the flame, from the composition of the compound feeding the flame and from the composition of the flame gases. Using the values of  $P_{\text{Na}}$  and the partial pressures of the gaseous components of the combustion products of the hydrochloric acid flame one can

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Spectroscopic Investigation of  $\text{NaCl} \rightleftharpoons \text{Na} + \text{Cl}$  20-5-25/48  
 Reaction Equilibrium in the  $\text{H}_2 + \text{Cl}_2$  Flame and the Dissotiation  
 Energy of NaCl.

show that Na in the case of equilibrium in the flame is present only in form of NaCl,  $\text{Na}^+$  and Na and that the partial pressures of NaH, NaOH and  $\text{Na}_2\text{Cl}_2$  are so small that they can be neglected. A further table contains the values of  $P_{\text{Na}^+}$ ,  $P_{\text{NaCl}} = P_{\Sigma \text{Na}} - P_{\text{Na}^+} - P_{\text{Na}}$ , the constant of the equilibrium of reaction  $\text{NaCl} \rightleftharpoons \text{Na} + \text{Cl}$  with the flame temperature as well as of  $D_0(\text{NaCl}) = T (\Phi_{\text{Na}}^* + \Phi_{\text{Cl}}^* - \Phi_{\text{NaCl}}^* - R \ln K_p)$ . The comparison of the results found in this work with one another as well as with the results obtained by means of other methods speaks in favor of the following: In the outer core of the flame conditions must be reached which are close to equilibrium, and the dissotiation energies of the metal chlorides can be investigated in a hydrochloric acid flame. There are 1

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Spectroscopic Investigation of  $\text{NaCl} \rightleftharpoons \text{Na} + \text{Cl}$  20-5-25-48  
Reaction Equilibrium in the  $\text{H}_2 + \text{Cl}_2$  Flame and the Dissociation  
Energy of NaCl.

table, and 7 references, 6 of which are Slavic.

PRESENTED: May 4, 1957, by V. N. Kondrat'yev, Academician

SUBMITTED: April 25, 1957.

AVAILABLE: Library of Congress

Card 4/4

PRIKHOT'KO, A. F.

24(7)

p 3

PHASE I BOOK EXPLOITATION

SOV/1365

L'vov. Universitet

Materialy I Vsesoyuznogo soveshchaniya po spektroskopii. t. 1: Molekulyarnaya spektroskopiya (Papers of the 10th All-Union Conference on Spectroscopy. Vol. 1: Molecular Spectroscopy) [L'vov] Izd-vo L'vovskogo univ-ta, 1957. 499 p. 4,000 copies printed. (Series: Ita: Fizicheskyy zbirnyk, vyp. 3/8/)

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii. Ed.: Jazer, S.L.; Tech. Ed.: Saranyuk, T.V.; Editorial Board: Lavitsberg, G.S., Academician (Resp. Ed., Deceased), Neporent, B.S., Doctor of Physical and Mathematical Sciences, Fabelinskiy, I.L., Doctor of Physical and Mathematical Sciences, Fabrikant, V.A., Doctor of Physical and Mathematical Sciences, Kornitskiy, V.G., Candidate of Technical Sciences, Rayskiy, S.M., Candidate of Physical and Mathematical Sciences, Klimovskiy, L.K., Candidate of Physical and Mathematical Sciences, Miliyanovich, V.S., Candidate of Physical and Mathematical Sciences, and Glaubenman, A. Ye., Candidate of Physical and Mathematical Sciences.

Card 1/30

Festlin, Yu. A., V.M. Tatevskiy, and B.A. Pozdyshev. Study of Rotational Isomerism by Means of Spectroscopy

300

Kovalev, I.P. Vibrational Spectra and Potential Energy Constants of Monosilane and Its Deutero-derivatives

304

Vozts, I.V., and L.V. Gurvich. Energy Dissociation and Basic Electron States of Alkali Earth Metal Oxides

305

Yakovleva, A.V., and I.I. Gromova. Nitrogen Fluorescence Under the Influence of Short-wave Radiation

308

Dianov-Klokov, V.I. Absorption Spectra of Liquid Oxygen

310

Koronkevich, V.P. Experimental Determination of Coefficients of the Dispersion Formula for Normal Air

311

AUTHOR: VEYTS, I. V.

TITLE: Dissertations (Dissertatsii)

PERIODICAL: Metall'yovedeniye i Obrabotka Metallov, 1958, No. 2, p. 63 (USSR).

"Determination of the Dissociation Energy of Oxides of Alkali Metals on the Basis of Measuring the Intensity of Resonance Lines of Atoms of the Metal in the Spektra of the Flame," (Operdeleniye energii dissotsiatsii okislov shchelochno-zemel'nykh metallov na osnove izmereniya intensivnosti rezonansnykh liniy atomov metallov v spektrakh plamen) -Candidate of Chemical Sciences. Moscow, 1957. Moscow State University imeni M. V. Lomonosov.

AUTHORS: Gurrich, L. V., Veyts, I. V.

SOV/48-22-6-9/28

TITLE: The Determination of the Dissociation Energies of Molecules by the Investigation of the Equilibrium of Their Dissociation in Flames (Opredeleeniye energiy dissotsiatsii molekul na osnovanii izucheniya ravnovesiya ikh dissotsiatsii v plamenakh)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, 1958, Vol. 22, Nr 6, pp. 673-676 (USSR)

ABSTRACT: When studying earlier papers (Refs 1-6) we find that one of the best methods of determining dissociation energies is based upon determination of the partial pressure  $P_M$  of the metal according to the intensity of its lines in the flame spectrum. Basing on the assumption that in flames metal can only exist in form of the atoms M and the molecules MX, partial pressure  $P_{MX}$  of the compound under investigation is determined according to the following formula:  $P_{MX} = P_{\Sigma M} - P_M$ , where  $P_{\Sigma M}$  denotes the general pressure of the metal compounds in the flames. It is pointed out (Refs 5-7) that partial pressure can be determined according to the known equilibrium constant of the dissociation reactions of the compounds.

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The Determination of the Dissociation Energies of  
Molecules by the Investigation of the Equilibrium  
of Their Dissociation in Flames

SOV/48-22-6-9/28

On the basis of the examples of calculation given it is found that the dissociation energy  $MX$  can be determined by the method mentioned only if  $D_0(MX) \geq T(\Delta \phi_T + 1,38 - R \ln PX)$ . The presence of other metal compounds impairs the accuracy of this method (Ref 8). The method was employed for the investigation of dissociation energies of the diatomic oxides of the elements of group 3 (BO, AlO, GaO, InO, TlO) in the case of flame compositions of  $C_2H_2+O_2$ ,  $H_2+O_2$ ,  $CO+O_2$ . Measurements were carried out as described (Refs 5,6). The metals were introduced into the flames as solutions of their sulfuric acid- or chromium salts and boron in form of  $Na_2B_4O_7$ . The partial pressure of metals in flames was determined on the basis of measurements carried out of the intensity of resonance lines with the transitions  $^2S_{1/2} \rightarrow ^2P_{1/2}$ ,  $3/2$ . Results are shown by tables. In conclusion it is pointed out that this paper confirms the possibility of accurately determining dissociation energies of molecules in flames.

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The Determination of the Dissociation Energies of  
Molecules by the Investigation of the Equilibrium  
of Their Dissociation in Flames

SOV/48-22-6-9/28

At the same time it is mentioned that by comparing stable molecules  $\text{BO}$ ,  $\text{AlO}$ ,  $\text{GaO}$  and  $\text{InO}$  it can be proved that the theory developed by H. G. Howell (Ref 20) concerning the low dissociation energy of  $\text{InO}$  is wrong. There are 24 references, 9 of which are Soviet.

ASSOCIATION: Institut goryuchikh iskopayemykh Akademii nauk SSSR (Institute of Mineral Fuels, AS USSR)

1. Metals--Ionization    2. Energy--Measurement    3. Metals--Spectra  
4. Flames--Spectra    5. Mathematics

Card 3/3

5(4)

SOV/76-32-11-11/32

AUTHORS:

Veyts, I. V., Gurvich, L. V., Rtishcheva, N. P.

TITLE:

Thermodynamic Properties of Magnesium, Calcium, Strontium, Barium and of Their Oxides and Monohydrides in Gaseous State (Termodinamicheskiye svoystva magniya, kal'tsiya, strontsiya, bariya, ikh okislov i monogidridov v gazoobraznom sostoyanii)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 11, pp 2532-2542 (USSR)

ABSTRACT:

The thermodynamic properties of the substances mentioned in the title were determined according to the methods of static thermodynamics at 293.16; 298.16; 400 (100) and 3500°K. From the data obtained the equilibrium constants of the dissociation of the corresponding diatomic gases in the investigated temperature range were calculated. The values for the

thermodynamic potential  $\phi_T^* = - \frac{Z_T^* - H_O^*}{T}$ , the entropy  $S_T^*$  and the change of the enthalpy  $H_T^* - H_O^*$  were determined as well.

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The determination of the thermodynamic functions of the diatomic gases was carried out according to the table method by

SOV/76-32-11-11/32

Thermodynamic Properties of Magnesium, Calcium, Strontium, Barium and of  
Their Oxides and Monohydrides in Gaseous State

Gordon and Barnes (Ref 25). In the calculations the values of the  $\phi^*$  potentials for atomic oxygen and hydrogen recommended by the Byuro standartov SSHA (Bureau of Standards USA) were used. The authors thank I. G. Baybuz and V. S. Shmeleva. There are 11 tables and 29 references, 5 of which are Soviet.

ASSOCIATION: Institut goryuchikh iskopayemykh, Moskva (Institute of  
Mineral Fuel, Moscow)

SUBMITTED: May 4, 1957

Card 2/2

*Veyts, I. V.*

PHASE I BOOK EXPLOITATION

JUN 80V/6260

Gurvich, Lev Veniaminovich, Georgiy Akopovich Khaohkuruzov, Vadim Andreyevich Medvedev, Inessa Veniaminovna Veyts, Georgiy Andreyevich Bergman, Vladimir Stepanovich Yungman, Nina Petrovna Rtishcheva, Lidiya Fedorovna Kuratova, Georgiy Nikolayevich Yurkov, Amaliya Abramovna Kane, Boris Fedorovich Yudin, Boris Isidorovich Brounshteyn, Viktor Feodosyevich Baybuz, Valeriy Aleksandrovich Kvividze, Yevgeniy Aleksandrovich Prozorovskiy, and Boris Aleksandrovich Vorob'yev.

Termodinamicheskiye svoystva individual'nykh veshchestv; spravochnik v dvukh tomakh. tom 1: Vychisleniye termodinamicheskikh svoystv; tom 2: Tablitsy termodinamicheskikh svoystv (Thermodynamic Properties of Individual Substances; Reference Book in Two Volumes. v. 1: Calculation of Thermodynamic Properties; v. 2: Tables of Thermodynamic Properties). 2d ed., rev. and enl. Moscow, Izd-vo AN SSSR, 1962. 1161 and 916 p. 4000 copies printed.

Sponsoring Agencies: Akademiya nauk SSSR. Institut goryuchikh iskopayemykh; and Gosudarstvennyy komitet Soveta Ministrov SSSR

Card 1/3

Thermodynamic Properties (Cont.)

SOV/6260

po khimii. Institut prikladnoy khimii.

Resp. Ed.: V. P. Glushko, Academician, L. V. Gurvich, G. A. Khachkuruzov, I. V. Veyts, and V. A. Medvedev; Ed. of Publishing House: K. P. Gurov; Tech. Ed.: V. G. Laut.

**PURPOSE:** This reference book may be used in scientific-research and experimental-design work in institutes, design offices, and schools of higher education, as well as for training specialists in chemical thermodynamics and thermal physics.

**COVERAGE:** Volume 1 of this work deals with methods for calculating thermodynamic properties and with the selection of constants required for the calculations. Volume 2 contains tables of thermodynamic properties (reduced thermodynamic potential, entropy, enthalpy, and the logarithm of the dissociation or ionization constants of equilibrium) compiled where data were lacking, on the basis of published and unpublished material from a number of Soviet research institutes. Thermodynamic properties for the ideal gas

Card 2/5

## Thermodynamic Properties (Cont.)

SOV/6260

state are presented in table form for 335 gases, 44 liquids, and 45 solids compounded from 33 chemical elements and their isotopes, viz.: H, D, T, He, Li, Be, B, C, N, O, F, Ne, Na, Mg, Al, Si, P, S, Cl, Ar, K, Ca, Br, Kr, Re, Sr, Zr, I, Xe, Cs, Ba, Hg, and Pb. Thermodynamic properties are given for the following 22 gases in the range from room temperature to 20,000°K: H, H<sup>+</sup>, H<sup>-</sup>, O, O<sup>+</sup>, H<sub>2</sub>, O<sub>2</sub>, OH, OH<sup>+</sup>, H<sub>2</sub>O, N, N<sup>+</sup>, N<sub>2</sub>, N<sub>2</sub><sup>+</sup>, NO, NO<sup>+</sup>, C, C<sup>+</sup>, CO, CO<sup>+</sup>, and e<sup>-</sup>; for the 14 least stable gases up to 4000°K; and for the remaining 299 gases up to 6000°K. Virial coefficients for 34 gases are also given up to 6000°K.

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PART I. METHODS OF CALCULATING THE THERMODYNAMIC PROPERTIES OF INDIVIDUAL SUBSTANCES	

Card 3/3

MEDVEDEV, V.A.; YUNGMAN, V.S.; VOROB'YEV, A.F.; GURVICH, L.V.;  
BERGMAN, G.A.; REZNITSKIY, L.A.; KOLESOV, V.P.;  
GAL'CHENKO, G.L.; KHODEYEV, Yu.S.; KHACHKURUZOV, G.A.;  
SOKOLOV, V.B.; GOROKHOV, L.N.; MONAYENKOVA, A.S.;  
KOMAROVA, A.F.; VEYTS, I.V.; YURKOV, G.N.; MALENKOV, G.G.;  
SMIRNOVA, N.L.; GLUSHKO, V.P., akademik, otv. red.;  
MIKHAYLOV, V.V., red.; KARAPET'YANTS, M.Kh., red.

[Thermal constants of substances; reference book in ten  
numbers] Termicheskie konstanty veshchestva; spravochnik  
v desiati vypuskakh. Moskva, No.1. 1965. 144 p.  
(MIRA 18:7)

1. Moscow. Vsesoyuznyy institut nauchnoy i tekhnicheskoy  
informatsii.

VEYTS, R.I., inzhener.

Efficient profiles for reinforcement rods used in prestressed  
concrete construction elements. Strei.prom. 33 no.10:34-35 0'55.  
(Concrete, Prestressed) (MLRA 9:1)



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Vexes R.I.

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001859710004-6"

VEYTS, R.I., inzhener.

Use of 2 percent calcium chloride solution in reinforced concrete.  
Stroi.prom. 32 no.9:23-25 8 '54. (MLBA 7:11)  
(Reinforced concrete) (Calcium chloride)

VEYTS, V.L.

Dynamic calculation of machine-tool clamping devices with  
electric drive. Stan. i instr. 36 no.10:1-5 0 '65.  
(MIRA 18:11)

AUTHOR:

VEYTS, V.L.

121-7-5/26

TITLE:

The Dynamical Computation of Machine Clamping Devices. (Dinamicheskiy raschet stanochnykh zazhimnykh ustroystv, Russian)

PERIODICAL:

Stanki i Instrument, 1957, Vol 28, Nr 7, pp 12-16 (U.S.S.R.)

ABSTRACT:

At present fast-acting mechanized clamping devices with pneumatic, hydraulic, and electric drive are being widely used in machine building. The main disadvantages of pneumatic and hydraulic devices are: the change of clamping force in the case of chance changes of pressure in the tubes; the necessity of automatic devices for stopping the machine in the case of an excessive drop in pressure. Electromechanical clamping devices do not have these disadvantages, and, in addition, they consume less energy, because, contrary to pneumatic and hydraulic devices, they are in action only while the clamping device is in operation. Clamping devices must have their own decelerating device within their kinematic circuit, for which purpose spiral and worm drives are the best suited.

Illustration 1 shows the mechanism of a 3-cam electromechanical cartridge for lathes, which is described in detail. In this paper an analysis of dynamical computation is carried out and its method is described, which is based on the worked-out

Card 1/2

121-7-5/26

The Dynamical Computation of Machine Clamping Devices.

theory of dynamical computations of machine drives with self-decelerating elements. Among a whole series of assumptions formulae are obtained, which, together with the curves on illustrations 5 - 11, facilitate practical computations as well as the selection of the optimum parameter of a clamping device. The computations, carried out on the basis of this method with respect to various clamping devices agreed well with practical values. (With 3 References).

ASSOCIATION: Not given  
PRESENTED BY:  
SUBMITTED:  
AVAILABLE: Library of Congress  
Card 2/2

VEYTS, V.L.

Dynamics of a machine-tool drive during the cutting-in and  
coming-out of cutting tools. Stan. i instr. 35 no.1:15-21 Ja  
'64.  
(MIRA 17:3)

VEYTS, V.L. (Leningrad)

Dynamics of the steady motion of a machine unit with electric drive  
and self-braking transmission. Mashinovedeniye no.1:51-58 '65.  
(MIRA 18:5)

VEYTS, V.L. (Leningrad); SHRAGO, L.G. (Leningrad)

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VEYTS, V.L.

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'58. (MIRA 12:11)

(Power transmissions--Brakes)

VEYTS, V. L., Candidate of Tech Sci (diss) -- "Some problems of the dynamics of machine-tool power supply with self-braking transmission". Leningrad, 1959.

17 pp (Min Higher Educ USSR, Leningrad Polytech Inst im M. I. Kalinin), 150 copies (KL, No 21, 1959, 115)

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(Tires, Steel--Maintenance and repair)

VEYTS, V.L.; DOBROSLAVSKIY, V.L.

Calculation of machine-tool drives in case of periodic loading.  
Stan.1 instr. 32 no.3:20-25 Mr '61. (MIRA 14:3)  
(Machine tools--Electric driving)



VEYTS, V.L., kand.tekhn.nauk

On what does the reliability of machine-tool parts depend? Mash-  
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(Machine tools)

VEYTS. V L.

25(1)

PHASE I BOOK EXPLOITATION

SOV/2928

Andozhskiy, Vsevolod Dmitriyevich, Aleksandr Ivanovich Belyanin,  
Vladimir L'vovich Veyts, Yevgeniy Grigor'yevich Ginzburg,  
Alekssey Illarionovich Yefimovich, Igor' Semenovich Krivenko,  
Vladimir Mikhaylovich Shannikov, and Izrail' Nakhmanovich Frenkel'

Zubchatyye i chervyachnyye peredachi; nekotoryye voprosy teorii,  
rascheta i proizvodstva (Spur Gear and Worm Gear Drives; Some  
Problems in Theory, Design, and Manufacture) Moscow, Mashgiz,  
1959. 219 p. Errata slip inserted. 9,000 copies printed.

Ed. (Title page): N. I. Kolchin, Doctor of Technical Sciences,  
Professor; Reviewer: A. N. Grubin, Doctor of Technical Sciences,  
Professor; Ed. (Inside book): N. F. Golovanov, Candidate of  
Technical Sciences; Ed. of Publishing House: N. Z. Simonovskiy;  
Tech. Ed.: R. G. Pol'skaya; Managing Ed. for Literature on the  
Design and Operation of Machinery (Leningrad Division, Mashgiz):  
F. I. Fetisov, Engineer.

Card 1/6

Spur Gear and Worm Gear Drives (Cont.)

SOV/2928

PURPOSE: This book is intended for technical personnel and scientific workers interested in the theory of gears and gear drives.

COVERAGE: This book deals with the calculation, design, and practical application of gears and gear drives. The first three chapters are devoted to new types of gears and gear drives and to the manufacture of gears with advanced geometry of engagement. The last four chapters describe theoretical and practical methods of gear calculation. A description is given of planetary gear drives with various types of engagement, with emphasis on the design of planetary reducing gear drives for use in electric motors. Recent achievements in the Soviet gear-cutting industry and theoretical work on gear design and calculations of stresses in gear trains are discussed. No personalities are mentioned. There are 97 references: 82 Soviet, 10 German, 4 English, and 1 French.

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.Spur Gear and Worm Gear Drives (Cont.)

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1-28-60

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PHASE I BOOK EXPLOITATION

807/2780

Veyts, Vladimir L'vovich, Vladimir Kirillovich Dondoshanskiy, and Vyacheslav Ivanovich Chiryayev

Vymuzhdennyye kolebaniya v metallorezhushchikh stankakh; raschet detaley i uzlov (Forced Vibrations in Metal-cutting Machine Tools; Design of Parts and Sub-assemblies) Moscow, Mashgiz, 1959. 287 p. Errata slip inserted. 5,500 copies printed.

Reviewer: V. A. Kudinov, Candidate of Technical Sciences; Ed.: I. B. Barger, Candidate of Technical Sciences; Ed. of Publishing House: V. P. Vasil'yeva; Tech. Ed.: O. V. Speranskaya; Managing Ed. for Literature on the Design and Operation of Machinery (Leningrad Division, Mashgiz): F. I. Fetisov, Engineer.

**PURPOSE:** This book is intended for technical personnel working in the design and construction of machine tools. It may also be used by students of institutions of higher technical education studying the theory of vibrations.

**COVERAGE:** The basic theory of vibrations and methods of designing parts and subassemblies of machine tools for vibrational stability are presented.

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Forced Vibrations in Metal-cutting Machine Tools (Cont.) SOV/2780

Types of vibrations occurring in metal-cutting machine tools and methods of calculating natural frequencies of bending and torsional vibrations are described. Special attention is given to calculating procedures and theoretical principles. No personalities are mentioned. There are 38 references, all Soviet.

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AVAILABLE: Library of Congress (TJ 1185.V42)

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GO/os  
1/12/60

VEYTS, V.L.

Mechanisms for moving heavy-duty milling machines during their  
installation. Stan.1 instr. 30 no.4:1-5 Ap '59.

(MIRA 12:6)

(Milling machines) (Factory management)

VEYTS, Vladimir L'yovich, inzh.; DONDOZHANSKIY, Vladimir Kirillovich,  
inzh.; CHIRYAYEV, Vyacheslav Ivanovich, inzh.; KUDINOV, V.A.,  
kand.tekhn.nauk, ratsenzent; BARGER, I.B., kand.tekhn.nauk,  
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tekhn.red.

[Forced vibrations in metal milling machines; design of parts  
and units] Vynuzhennyye kolebaniya v metalloreshushchikh  
stankakh; raschet detalei i uslov. Moskva, Gos.nauchno-tekhn.  
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(Machine tools--Vibration)



VEITS, V.L.; CHIRYAYEV, V.I.; KUDINOV, V.A., red.; LAZAREV, Yu.M., tekhn.red.

[Some problems in analyzing the smoothness and displacement sensitivity of feed mechanisms of heavy-duty metal-cutting machines] Nekotorye voprosy raschetov mekhanizmov podachi tiazhelykh metalloreshushchikh stankov na plavnost' i chuvstvitel'nost' peremeshcheniya. Moskva, Tsentral'noe biuro tekhn.informatsii, 1958. 30 p. (MIRA 12:3)

1. Moscow. Eksperimental'nyy nauchno-issledovatel'skiy institut metalloreshushchikh stankov.

(Machine tools)

TURETSKIY, I.Yu.; LYUBIMKOV, L.N.; CHERNOV, B.V.; KOLCHIN, N.I., zasl.  
deyatel' nauki i tekhniki RSFSR, doktor tekhn. nauk, prof.,  
red.; MAYDEL'MAN, E.D., inzh., retsenzent; VEYTS, V.L., kand.  
tekhn. nauk, red.; ONISHCHENKO, R.N., red.izd-va; BARDINA,  
A.A., tekhn. red.

[Recovering the machining precision of gear-cutting machines]  
Vosstanovlenie tekhnologicheskoi tochnosti zuboreznykh stankov.  
Pod obshchei red. N.I.Kolchina. 2. perer. izd. Moskva, Mashgiz,  
1962. 91 p. (Bibliotekha zuboreza, no.10) (MIRA 16:3)  
(Gear-cutting machines--Maintenance and repair)

VEYTS, V. I.

Selecting mechanism parameters for induction pickups. Stan. 1  
instr. 33 no.10:28-32 0 '62. (MIRA 15:10)

(Servomechanisms)

SOV/121-58-9-3/21

AUTHORS: Veyts, V.L. and Chiryayev, V.I.  
TITLE: Planetary Transmissions in Heavy Machine Tools  
(Planetarnyye peredachi tyazhelykh stankov)  
PERIODICAL: Stanki i Instrument, 1958, Nr pp 10 - 15 (USSR)  
ABSTRACT: The basic types of planetary transmissions used in the feed mechanisms of heavy machine tools are discussed. The kinematic diagrams of simple planetary transmissions with three basic links are shown in Table 1. Tables 2 and 3 show various combinations of transmission ratios in planetary transmissions. With high transmission ratios, appreciable values of non-uniformity are possible. Several examples of planetary transmissions are shown in cross-section. Some design features are criticised such as unequal loads on the planet gears and excessive bearing loads due to overhung planet gears. It is concluded that planetary transmissions should be applied only where

Card 1/2

Planetary Transmissions in Heavy Machine Tools

SOV/121-58-9-3/21

size limitations are predominant and engagement in operation is essential.

There are 9 figures, 3 tables and 4 references, 3 of which are Soviet and 1 Czech.

Card 2/2

VEYTS, V.L.

Designing feed mechanisms of heavy-duty machine tools for  
smoothness and susceptibility of displacement. Stan. 1 instr. 29  
no.3:3-7 Mr '58. (MIRA 12:1)

(Machine tools)

VEYTS, V.L.

AUTHOR: Veits, V.L.

590

TITLE: The Dynamics of Machine Tool Drives with Irreversible Worm Transmissions (Dinamika Stanochnykh Privodov S Samotormozyashchimisya Chervyachnymi Peredachami).

PERIODICAL: "Stanki i Instrument" (Machine Tools and Cutting Tools, No.3, 1957, pp.5-9. (U.S.S.R.).

ABSTRACT: The qualitative and quantitative properties of a transmission with an irreversible worm gear, working under braking conditions are examined taking into account a finite stiffness of the gear teeth (in contrast to (3)) but neglecting the bearing losses in the transmission shaft supports and assuming that the inertias are rigidly connected to the worm and worm wheel shaft. A mean transmission efficiency is assumed. Two states of operation are distinguished. In the first state the worm is driving and the worm wheel does not contribute to the worm braking moment. In the second state a braking torque on the worm shaft arises in the engagement between the worm and the worm wheel. Equations of motion are set up for each state. A condition dividing the two states is found. In the second state the kinetic energy of the worm wheel shaft is spent on generating a resistance in the irreversible engagement, whilst the kinetic energy of the worm shaft assists the continuation of motion. The condition for the stability of motion in the second state is stated. The kinetic energy stored in the worm shaft must exceed the work of the

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The Dynamics of Machine Tool Drives with Irreversible Worm  
Transmissions (Cont.)

resistance forces in the transmission produced by the worm wheels. This leads to limiting values for the ratio of the moments of inertia. These values are plotted in a graph against the transmission ratio and a friction parameter which is shown to be three times the ratio of the effective friction angle and the pitch angle of the worm thread. The solutions of the differential equations in both states of operation yield sinusoidal oscillations with a frequency, which in the first state depends on the transmission ratio, the inertias and the tooth stiffness and in the second state also contains the above-mentioned friction parameter. Non-fulfilment of the condition dividing the first from the second state causes a change-over. Non-fulfilment of the condition of stability in the second state causes a steadily increasing braking moment until complete stoppage or failure. In the oscillatory state the oscillations are damped. Expressions are given for the braking moment after the damping of the oscillations. A specific example is further analysed of a stamping device in a heavy machine tool actuated by an electric motor through a worm transmission. In this instance the tooth flexibility is neglected in comparison with the transmission shaft flexibility. The motor is assumed to have linear external characteristics. It is shown that the use of a motor with relatively flat external characteristics is advisable.

There are 5 references, including 4 Soviet. 7 illustrations,



590

The Dynamics of Machine Tool Drives with Irreversible Worm  
Transmissions (Cont.)

including 2 graphs.

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(3) Davydov, B.L. O Vybege Mekhanizmov, Imeyushchikh  
Chervyachnyye Peredachi.  
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[Gear and worm drives; some problems in theory, design, and manufacture] Zubchatye i cherviachnye peredachi; nekotorye voprosy teorii, rascheta i proizvodstva. Pod red. N.I.Kolchina. Moskva, Gos.nauchno-tekhn.isd-vo mashinostroit.lit-ry, 1959. 219 p.  
(Gearing) (MIRA 12:6)

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Osnovnye svedeniia o zubchatykh peredachakh i zatsepleniakh.  
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VEYTS, V.L.

Using self-braking transmissions in feed mechanisms of machine tools. Stan. i instr. 29 no.7:15-17 J1 '58. (MIRA 11:9)  
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Planetary transmissions used in heavy machine tools. Stan. 1  
instr. 29 no.9:10-15 S '58. (MIRA 11:10)  
(Machine tools) (Power transmission)

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Stan.i instr. 28 no.3:5-9 Mr '57. (MLRA 10:5)  
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103 Ja-F '65. (MIRA 18:4)

VEYTS, V. N.

PA 65/49T49

USSR/Engineering - Electric-Power Aug 49  
Consumption  
Power Supplies

"Power-Technological Combination and Power Efficiency of Industrial Production," V. N. Veyts, Corr Mem, Acad Sci USSR, Power Eng Inst Jmenl G. M. Krzhizhnevskiy, Acad Sci USSR, 172 pp

"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 8

Discusses (1) statement of problem, giving three forms of power-technological combinations in industry, (2) utilization of secondary

65/49T49

USSR/Engineering - Electric-Power Aug 49  
Consumption (Contd.)

power resources of industrial production (hot gases, etc.), (3) using power-plant steam discharge for high-temperature processes, and (4) combination of technological processes, with five tables, and five diagrams. States that USSR industry consumes approximately 50% of total fuel, and 66.6% of total electric power expended in the national economy. Industrial power apportionment is rated (approx): 50% for high-temperature and chemical processes, 30% for low-temperature processes, and 20% for motive power. Submitted 25 Apr 49.

65/49T49



VEYTS, V. T.

36056 Energeticheskiye kharakteristiki vozdukhnykh turbin v skhere teplosifitsii  
vysokotemp. rotarnykh protessov. Izdaniye 2-ye, M.: Vsesoyuznaya nauka, 1979, 112 s.,  
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niya Latvyskoy SSR.  
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(Agriculture--Study and teaching)

key 15, y22

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[Mine ventilation, illumination, fires, and rescue work] Rudnichnaya  
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PA 3/49T14

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"Zavod Lab" Vol XIV, No 8

Veytsblit outlines methods used in his laboratory  
to determine carbon, sulfur, silicon, phosphorus,  
and manganese in steels, and copper in nonferrous  
alloys.

FDB

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S/0126/63/015/004/0529/0533

AUTHOR: Putsykin, G. G.; Pashkov, P. P.; Veytsel', M. Ya.

58  
57

TITLE: Analysis of the directed crystallization process in "Magniko" type alloy

SOURCE: Fizika metallov i metallovedeniye, v. 15, no. 4, 1963, 529-533

TOPIC TAGS: directed crystallization, "Magniko" alloy, criterium of directed solidification

ABSTRACT: The influence of solidification conditions upon the crystalline structures of castings was studied. The process which leads to the formation of magnets with a columnar structure was investigated theoretically and experimentally. The data obtained for the relation between the directed solidification coefficient K and the casting mold temperature are presented. The experiments showed that the melted alloy solidification proceeded in the direction of the main temperature gradient and also away from the walls of the molds. The values of K represent the speeds of crystallization fronts moving in both directions. The Se values were calculated on the basis of temperature gradients and thermal conductivity. They were also obtained experimentally for molds heated to different temperatures and for various cooling speeds. The authors concluded that K increases considerably if

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the crystallization process takes place in a mold furnace provided with bottom refrigeration. A considerable increase in K is achieved by heating molds to the temperature of the alloy crystallization. The results obtained are substantiated by photographs showing magnet structure (longitudinal section) formed at 1410C. The specimen produced had maximum magnetic energy 7 - 8 times  $10 \sup 6$  gauss-ergs. Orig. art. has: 8 formulas and 5 figures.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut elektromekhaniki  
(All-Union Scientific Research Institute of Electromechanics)

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Card 2/2

BELIAVIN, Oleg Vasil'yevich; VEYTSSEL', V.A., kandidat tekhnicheskikh nauk,  
redaktor; BELITSKAYA, A.M., izdatel'skiy redaktor; ZUDAKIN, I.M.,  
tekhnicheskii redaktor

[Air navigation by radio] Radiotekhnicheskie sredstva samoloto-  
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PHASE I BOOK EXPLOITATION

SOV/2233

Belavin, Oleg Vasil'yevich, Viktor Abramovich Veytsel', and Vasilii Ul'yanov

Korotkovolnovyye radiopelengatory (Short-wave Radio Direction Finders) Moscow, Oborongiz, 1959. 123 p. (Series: Moscow. Aviatsionnyye institut imeni Sergo Ordzhonikidze) 11,500 copies printed.

Ed.: S. I. Bumshteyn; Tech. Ed.: V. P. Rozhin; Managing Ed: A. S. Zaymovskaya, Engineer.

PURPOSE: This book is a textbook for students of radio engineering. It may also be used by engineers and graduate students working in the field of short-wave radio direction-finding and phase measurement.

COVERAGE: The authors describe basic methods of short-wave direction finding and discuss block diagrams of direction finders with antenna spacings larger than the wavelength. Special attention is given to circuits of direction finders operating with continuous

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and pulse radio signals. The authors also discuss typical errors occurring during bearing measurement and present methods of improving the accuracy of direction finding. They also analyze various equipment errors and discuss methods of designing radio direction finders. They present the results of research on the analysis of errors of receiving channels and phase meters, conducted on laboratory models at the Moskovskiy Aviatsionnyy Institut (Moscow Aviation Institute). Chapter I was written by Docent O. V. Belavin, Candidate of Technical Sciences, Chapters II and VI by V. A. Veytsel', Candidate of Technical Sciences, and Chapters III, IV, V by V. S. Ul'yanov, Candidate of Technical Sciences. No personalities are mentioned. There are 19 references: 13 Soviet, 4 English and 2 German.

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